DOCUMENT RESUME

ED 477 733 SP 041 573

AUTHOR	Collinson, Vivienne; Cook, Tanya Fedoruk
TITLE	Learning To Share, Sharing To Learn: Fostering Organizational Learning through Teachers' Dissemination of Knowledge.
PUB DATE	2003-04-00
NOTE	23p.; Paper presented at the Annual Meeting of the American Educational Research Association (Chicago, IL, April 21-25, 2003).
PUB TYPE	Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	Collegiality ; *Computer Literacy; Elementary Education; *Information Dissemination; Inner City; Middle Schools; *Teacher Knowledge; *Technology Education; Urban Schools

ABSTRACT

This study examined the interplay between individual and organizational learning in school, noting factors that motivated and constrained the dissemination of teachers' learning. Information came from a larger qualitative study that explored how individual teachers' learning in a middle school instructional technology project was disseminated to other organizational members. Ten participating teachers completed a survey about their backgrounds, technological skills, technology use in instruction after participating in the Educators' Electronic Learning Community, and sharing of knowledge with colleagues. Next, participants completed interviews on knowledge, skills, and insights gained through participation in the project; methods used to share learning with colleagues; and factors affecting their ability to share information. Finally, they completed surveys that had them rate the strength of motivating and restraining factors. Results highlighted the power of the "practicality ethic" and the impact of longstanding school norms on teachers' decisions to learn and disseminate their learning to colleagues. The most influential factors included collegial relationships and reactions, time, beliefs and attitudes about learning and sharing, classroom benefits to teachers and students, and teachers' individual levels of technology competence. Motivating factors related to teachers' professional judgments, attitudes, and relationships. Constraining factors were external and related to the structure of the school day and year. (Contains 42 references.) (SM)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 477 733

DRAFT

Learning to Share, Sharing to Learn: Fostering Organizational Learning Through Teachers' Dissemination of Knowledge

Vivienne Collinson
Michigan State University
Fax: (313) 824-2949
colli221@msu.edu

Tanya Fedoruk Cook
Fax: (301) 320-8556
tafedoruk@aol.com

BEST COPY AVAILABLE

Paper prepared for the annual meeting of the
American Educational Research Association
Chicago, IL
April 21-25, 2003

SP041573

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Vivienne Collinson

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Learning to Share, Sharing to Learn: Fostering Organizational Learning Through Teachers' Dissemination of Knowledge

Vivienne Collinson & Tanya Fedoruk Cook

Recent educational reforms have targeted the school as the unit of change, yet professional development efforts are generally directed toward individual teachers. The implied assumption is that teachers share their individual learning in order to effect change at the school or organizational level. However, the literature indicates that dissemination in schools is not widespread and little is known about the formal and informal processes by which teachers share their learning in schools and school systems. Unless individuals disseminate or share what they have learned, "insights gained from action and reflection are not fully realized at the organizational level" (Shaw & Perkins, 1992, p. 178). Building understanding about the vital step of dissemination in organizational learning is important for both leveraging and institutionalizing lessons from school improvement efforts.

This qualitative study represents an initial step in examining the interplay between individual and organizational learning in a school context. It specifically focused on the factors that motivated and restrained the dissemination of teachers' learning in three schools involved in a multi-year computer technology innovation project. The most influential factors included collegial relationships and reactions, time, beliefs and attitudes about learning and sharing, classroom benefits to teachers and students, and teachers' individual levels of competence with the technology.

Identified Factors Affecting Dissemination

The literature on change theory, leadership, and professional development has repeatedly emphasized the enduring difficulty of implementing changes and innovations in schools (e.g., Fullan, 2001; Hargreaves, 1994; Little, 1982; Sarason, 1990). Contemporary reform efforts have concentrated on teachers in particular, with the assumption that "understanding how teachers grow and develop—what sustains as well as what impedes their growth—is what ultimately matters as we seek to understand how to change practice" (Lieberman, 1994, p. *x*).

Researchers generally agree that "all change involves learning…[and that] conditions that support learning must be part and parcel of any change effort" (Fullan & Miles, 1992, p. 749). Although individual learning is a necessary first step, it is insufficient to achieve organizational learning (Fiol & Lyles, 1985; also Argyris & Schon, 1978; Daft & Weick, 1984). A linchpin for moving individual learning to organizational learning is dissemination, the sharing of knowledge, skills, and insights achieved when there is a "collaborative exchange of ideas in which differing perspectives are aired and understanding is shared" (Shaw & Perkins, 1992, p. 178). In its strongest form, dissemination is more than a one-way relay of information; it is an extension of the reflective process, moving reflection from the individual to the group level.

Several prominent themes within the educational research literature suggest that teachers' individual learning is not widely disseminated either within schools or among schools. The literature identifies four major factors

BEST COPY AVAILABLE

influencing teachers' decisions to share their learning. These include a tradition of professional isolation, norms of professional autonomy (including norms of egalitarianism and reciprocity), teachers' views of knowledge, and issues involving time.

Professional isolation. Schools' long tradition of professional isolation among teachers presents a barrier to collegial interactions and dialogue, both of which represent prerequisites for the dissemination of knowledge (Goodlad, 1984; Lortie, 1975; Sarason, 1982). By contrast, norms of collegiality involve "expectations for shared discussions and shared work" (Little, 1982, p. 338). Little (1982) identified four kinds of teacher interactions that are central to collegiality and professional community. These "critical practices of adaptability" (p. 332) are:

1. frequent concrete and precise discussions about teaching and learning;
2. frequent observation coupled with useful feedback;
3. collaborative development and evaluation of teaching materials; and
4. teachers teaching and learning from one another. (p. 331)

However, just as researchers chronicled the damaging costs of professional isolation and autonomy (Lieberman & Rosenholtz, 1987; McLaughlin, 1993; Rosenholtz, 1989), so they discovered that collegiality was "something of a mystique" (Grimmett & Crehan, 1992, p. 56) and more "conceptually amorphous" than originally thought (Little, 1990, p. 509). An early concern involved "contrived collegiality" (Hargreaves & Dawe, 1990) which refers to administrative initiatives designed to foster collegiality. Typically, such initiatives are "grafted on to existing school cultures....without nurturing the underlying beliefs, values, and norms that make a sustaining culture" (Grimmett & Crehan, 1992, p. 58). Nevertheless, reformers recognized the potential for collegial interactions beyond activities such as observation and teaming (Lortie, 1975) and initiated a plethora of opportunities to encourage collegiality among teachers (e.g., peer coaching, mentoring, teaming, study groups, school-university partnerships).

Professional autonomy. A strong norm of professional autonomy in schools not only limits teachers to learning by trial-and-error, it also limits teachers' pedagogical repertoires by depriving them of colleagues' ideas and suggestions. Autonomy encourages constant reinventing of the wheel, while at the same time setting an expectation that even beginning teachers are competent and able to control their classes without help (Lortie, 1975). Moreover, this norm appears to be closely linked to a norm of egalitarianism and a norm of reciprocity.

"Egalitarianism rules out imposing one's views on others" (Lortie, 1975, p. 195) and "discourages teachers from telling a peer to do something different. The only permissible exchange of information on teaching techniques is the announcement that an alternative method exists" (Feiman-Nemser & Floden, 1986, p. 509). However, "one can...swap experiences in which help is latent or tell a story in return that contains advice" (Huberman, 1995, p. 215). Added to the norm of egalitarianism is the social norm of reciprocity. This norm is simple: "People should help those who have helped them; that is, a recipient of assistance should repay the benefactor" (Mussen & Eisenberg-Berg, 1977, p. 5). The rule for teachers appears to be, "Help one another upon request" or in return if someone has helped you, but avoid the appearance of judging peer

BEST COPY AVAILABLE

competence by sharing unsolicited knowledge, skills, or insights (Lortie, 1975, p. 195). Avoiding judgment of peers' competence potentially overrides collaborative overtures. "Because of the implications that requests for or offers of assistance have for teaching competence, most colleagues feel a clear moral constraint against offering or asking for suggestions about even the most routine matters" (Rosenholtz & Smylie, 1984, p. 155; Huberman, 1983; Little, 1987).

Despite these norms, "teachers see each other as the primary source of useful ideas" (Lortie, 1975, p. 193; also Rosenholtz, 1989; Smiley, 1989) and want more time to learn from colleagues (Bacharach, 1986; Wasley, 1991). A 1988 National Education Association survey that asked teachers to rate the effectiveness of different sources of teaching knowledge and skills found that, after direct experience, "consultation with other teachers" and "observation of other teachers" were the most likely to be judged as "definitely effective" sources of learning by teachers (Rait, 1995, pp. 97, 98). In other words, teachers find the dissemination of other teachers' knowledge to be one of the most useful sources of learning.

This finding creates a paradox: "It is ironic in a profession directed toward fostering a love of learning throughout life that teachers themselves appear to have such a difficult time learning from their colleagues" (Wasley, 1991, p. 166; also see Smiley & Denny, 1990). When peers do share, the "information exchange...is limited to dyads or triads" (Huberman, 1983, p. 496). "Such pairing is based on informal mutual choice and apparently rests on bonds of friendship" (Lortie, 1975, p. 193). Teachers are "less likely...to expose themselves to people they do not know" (Huberman, 1983, p. 495) and more likely to seek colleagues "who are nonthreatening and who share operational philosophies about what is important inside the classroom" (p. 500). They are also more likely to accept "new messages or practices [that are] compatible with the ideological orientation of an institution or individual" (p. 502).

Teachers' views of knowledge. Teachers generally view knowledge as something gained through individual experience. "Responsibility for accumulating, evaluating, and disseminating knowledge about teaching and learning has not been vested in teachers. Teachers have few mechanisms for adding to the knowledge base in teaching and leave no legacy of insights, methods, and materials at the close of a long career" (Little, 1987, p. 502). Simply put, "the ablest [teachers] are not expected to add to the shared knowledge of the group. There is, in short, no tradition honoring contributions to the craft" (Lortie, 1975, p. 241).

Additionally, teachers' view of knowledge tends to have a "pragmatic/instrumental focus" (Huberman, 1983, p. 486). Instead of engaging in a coherent search for knowledge based on a tradition of best practices, teachers continue to extend their teaching repertoires with a potpourri of ideas culled from any available sources. Innovations must work for them and have "rapidity of payoff" in order to be considered effective (p. 488). This "practicality ethic" (Doyle & Ponder, 1977) means that changes "which are seen as practical will be incorporated, at least tentatively, into teacher plans" (p. 2). Moreover, teachers are "considerably more interested in and responsive to immediate student reaction rather than evidence of long-term goal accomplishment....Equally or perhaps more importantly, teachers appear to do a rough cost-benefit analysis; that is, they weigh the "amount of return and the amount of investment" (p. 4-5,

8). The benefits are generally psychic rewards "such as recognition and student enthusiasm" (p. 8). Students' success or progress, in turn, acts as an "informal indicator of [the teacher's] success" and contributes to a "sense of usefulness" (Jackson, 1968/1990, p. 134).

As well, Lortie (1975) found that teachers are "clearly reluctant to present themselves as imitating colleagues. Their talk underlines the idea of *adapting* others' practices to their personal styles and situations....They describe the 'tricks of the trade' they picked up—not broader conceptions which underlie classroom practice" (p. 77, emphasis in original; Jackson, 1968/1990). The assumption appears to be that ideas and practices depend on the person or personal style of the teacher (a what's-best-for-me approach) and the context (a what-works-with-the-students criterion). "The teacher is the judge of what works" (p. 78). As one of Jackson's (1968/1990) teachers explained, "I think that it's important that a teacher is respected for her own ideas about teaching and isn't told how to do it" (p. 131).

Time. The lack of time to meet during the school day and the lack of learning forums are perennial issues for teachers (Donahoe, 1993; Fullan & Miles, 1992; Louis, 1994; Rosenholtz, 1989). Indeed, Lortie (1975) found that two-thirds of teachers' complaints were related to "time erosion or the disruption of work flow" (p. 178). Although many of the complaints involved P.A. announcements or secretarial tasks, interruptions seem to have created a special norm: "Intrusions on teaching carry a symbolic meaning—they depreciate the importance of those tasks the teacher considers central....Those who intrude on the teacher's scarce time are doing more than inhibiting work processes; they are manifesting a lack of respect for what teachers consider their core functions" (p. 179). These four factors—professional isolation, professional autonomy, teachers' views of knowledge, and time—all limit dissemination of individual teacher learning. Taken together, they suggest that there may be a breakdown in the organizational learning process of schools as early as simple dissemination of individual teacher's learning.

Background of the Study

This paper is drawn from a larger qualitative study that specifically explored how individual teachers' learning in a middle school instructional technology project was disseminated to other organizational members. The study also investigated factors that motivated or restrained dissemination of teachers' learning. For the purpose of this study, dissemination included any way in which teachers shared with colleagues what they had learned through participating in the computer technology project.

The study was part of a five-year project funded by the U.S. Department of Education through the Technology Challenge Grant Program. The Educators' Electronic Learning Community (EELC, a pseudonym) was a technology demonstration project involving a metropolitan school system, a neighboring university, and several private sector partners. Three inner city middle schools—Maple Middle School, Oak Middle School, and Sycamore Elementary and Middle School (pseudonyms)—participated in the project. All three were at risk of being "reconstituted" (taken over) by the state if they did not improve their academic performance. However, the schools were selected because they had on-going technology initiatives, administrative support, and teacher interest

in the project. Interested teachers were given equipment, project-designed software, in-school technical support, regular participants/researchers meetings, and annual summer institutes. In return, the teachers were asked to learn how to use the equipment and applications and to incorporate the technology into their instruction.

The sample of voluntary participants for this study included all 10 of the teachers who remained as classroom teachers in these three schools throughout the initial years of the project. Two teachers had 5-9 years of experience, three had 10-19 years, and five had 20-28 years of teaching. Participants first responded to a pre-interview survey that sought background information and asked them to rate their technological skills and their ability to incorporate technology into instruction before and after participating in EELC. The survey also sought open-ended responses regarding both the ways in which the teachers shared what they had learned with colleagues and the factors that motivated or restrained their sharing. Next, the participants engaged in a semi-structured interview that generally lasted 1 - 1 1/2 hours. The interview focused on three areas: knowledge, skills, and insights teachers gained through their participation in the EELC project; methods used to share learning with colleagues; and factors affecting teachers' ability to share what they had learned. Finally, participants completed a post-interview survey in which they rated the strength of motivating and restraining factors, and then ranked their relative importance. The factors were assembled from the pre-interview surveys and interviews. Other data sources included observations, field notes, a document review of project materials for background information, and notes taken at meetings and workshops.

Data analysis was an inductive and iterative process. The pre-interview survey was coded and used to personalize the interview questions and shape the post-interview survey. Interviews were transcribed verbatim from audiotapes. Coding and categorizing began with the first transcripts and continued concurrently with data collection. Categories for the first level of coding were drawn from the research questions. As these categories were refined and as sub-themes and patterns emerged, data were reexamined for unanticipated categories, new patterns, counter examples, and alternative explanations. Observations and notes were used to confirm, disconfirm, compare, or further explore interview responses with teachers' behavior and comments during meetings. Force-field analysis (Lewin, 1951) of the factors identified in the post-interview surveys was used to construct a dynamic picture of the environment influencing teachers' decisions to share their learning in order to understand how dissemination can be encouraged. Participant member checks and peer feedback were sought to ensure accuracy of meaning and interpretations, as well as appropriateness of illustrative teacher quotes.

Findings

The teachers in this study identified 43 factors that motivate dissemination (Table 1) and 35 factors that restrain it (Table 2), a level of specificity that exceeds that in the literature. For purposes of this paper, we present interview data by categories that appeared particularly important to the participants and that influenced their level of sharing. The categories include colleagues' relationships and reactions, time, attitudes (their own and their colleagues'), practicality at the

classroom level, and teachers' individual level of competence. Some categories (e.g., attitudes, time) appear on both tables because they can motivate or restrain dissemination of teachers' learning in schools. Other categories can be interrelated. For instance, teachers' personal attitudes may influence their definitions of practicality and relationships with colleagues.

Colleagues' relationships and reactions. Knowing colleagues either through friendships or from working together appears to play an important role in teachers' dissemination of learning. Jessie noted that her sharing is limited to "basically the people that I'm friendly with" and that "it's easy to share with others with common goals." Teachers also tended to share with grade-level team members, especially at Sycamore school where teams keep the same group of students throughout the three middle school years.

The teachers clearly understood norms of reciprocity and egalitarianism. "I've never had a person ever, if I went to [them] and said, 'I need your help to help me do this,' ever say, 'Well, I'm not going to help you' " (Betty). Betty said that if a colleague *asks* for help, "I share this information with them." However, she hastened to add that the advice is non-judgmental. The teachers also recognized helping or sharing as a quid pro quo. "Since those people were willing to help me, the least I can do if someone has a question or a problem is to try to assist them" (Carl). Nancy observed that when she helps teachers, "there's reciprocity there because of the old 'I need a favor.' So it's like a trade-off, the old barter [system]." However, unsolicited sharing is clearly not a norm in these schools. Irene noted that whenever she puts useful teaching magazines into the teachers' lounge, she always cuts out the address label because she does not want others to know where the magazines came from.

Other subtleties of reciprocity and egalitarianism emerged. Donna, who described herself as a "quiet person," admitted that often when she shares, she has been "asked by peers or instructed to do so." She uses an oblique reciprocal tactic of asking for help and then giving help. "When talking, if there is something I feel can help them, I share or ask them to share something with me." Similarly, Carl noted that "when teachers come to you for some of your ideas and suggestions, there's a pretty good chance they have an idea or two to help you." Betty pointed out that a few colleagues simply never share. One explanation of colleagues who do not ask for or offer advice reinforced the issue of judging peers' competence.

> I guess they figure that you're doing what you're supposed to do, and if you needed help, you'd ask for it. A lot of times, if someone offers you help, it's like, "Why are you offering me help? I don't need any help." You become defensive. It's like, "What am I doing wrong that she's giving this to me?" instead of just accepting it. (Jessie)

Principals' encouragement to share information was viewed positively although it happened in only one school. However, Betty appeared to envision sharing as a necessary role of leaders. As a team leader, she said that sharing "is one of the things I should do to help the team." She also observed that "people in this building who are into computers are the people who share what they learn....They're probably your best sharers in the building—the people really into the tech."

Time issues. In examining teachers' perceptions of restraining factors, the issue of time was so prominent that it merited separate consideration (see

Collinson & Cook, 2001). Teachers commented that they constantly feel "pulled in a million different ways to try to do a good job" (Betty) and that exchanges often occur "on the go" (Carl). Lunchroom conversations are "basically about kids" (Jessie) or personal chit-chat and appear to allow teachers necessary "down time" in their hectic day.

Many teachers in this study indicated that they need time to learn on their own before sharing with colleagues. Incorporating technology into lessons demands "spending time with the technology itself…to be able to use it effectively and have the kids do something…[where they] stay on task to reach the goal" (Ellen). Henry's comment was representative of the sample, "[If] I had time to learn more, I would be inclined to share more." Most of the teachers' learning and sharing appeared to occur at home or at school after classes, on weekends, or during vacation time. At two schools, team meetings seemed to provide opportunities to share instructional information. For the most part, however, because class time is "a time a lot of teachers don't like to interrupt," teachers "peek in" as they pass by or drop in before or after class time (Irene).

Although the teachers expressed interest in observing how colleagues incorporated technology into lessons, they were restrained by lack of common planning time, not knowing the master schedule (when colleagues were free), and a strong norm of not interrupting.

> I can't [observe] during the class day because all of our breaks and schedules are different…I certainly wouldn't want to go and break up Nancy's room while she is teaching…so it's kind of hard to do that because of our class schedules. (Michael)

Attitudes and dispositions. All of the teachers in the study expressed beliefs about the value of sharing and most viewed sharing as a two-way process in which teachers can help others learn while at the same time they help themselves by learning from others. "Sharing goes both ways. If you want to learn, of course you are going to ask people about things and share with them" (Karen). Several agreed that "if you have other people working with you, then of course you learn more" (Donna) and that "you can learn in any time and any place from anybody" (Jessie).

Sharing was also seen as a way of improving classroom practice. "We tend to be very sharing [at Sycamore school] because most of us believe that's the way you make your classroom better" (Betty). "If people see…collaboration as a key for them improving as a teacher, they'll do it" (Henry). Half the teachers echoed Karen's sentiments; "I guess I'm just the type of person that when I do something, I want to do it right and to the best of my ability. So I just want to keep on learning and learning."

The teachers in this study also mentioned attitudes that get in the way of learning and sharing. For example, "if teachers are not open to learning, then they would just close up to any new ideas" (Ellen). Not sharing was also associated with the idea that some "teachers are basically territorial" (Jessie).

> There are a few people who think other people steal their ideas, like it's theirs and they have this ownership to it. I guess I've just never felt that way. I feel like if I develop a lab or an idea that you can use, I'm going to share it with you. I guess they get upset because then the other person who's taking it says it was theirs. That's happened a few times throughout my career, that people have done that, and I didn't like it. But

it didn't keep me from sharing. But for them, it keeps them from sharing. So we're all different when it comes to that. I just feel like if somebody needs help, then you should try to help them. (Betty)

Others, like Henry, identified defensiveness as another barrier that must be overcome. "I think [collaboration] has incredible potential. People just need to say, 'We can help each other out' and not...get very defensive over what they do." Attitudes that restrain dissemination appear to be pervasive and well known to experienced teachers:

> Attitudes. Attitudes. That's always going to be something that's going to keep anybody from doing things. Attitudes....like "I don't need to do this" or "What makes you think that she knows what she's doing?" Or, "I've been doing [it] this way for so long and I'm tired of them always trying to do something different." And, you know, just attitudes. Or, "That child will never learn anything" or "I can't do anything with their parents" [or] "It's not my job to do this." You know, "I don't need to go to a workshop" or "I don't need to do this." (Jessie)

Practicality at the classroom level. The following representative comments by teachers in this study underscore the importance of both student and teacher interest and benefit to the dissemination of knowledge: "If you find something that works well and captures a student's attention, then you want to share it" (Karen); "If I can apply it to my classroom, I will share it with others" (Henry); "If I have located some information that is informative, relevant, or interesting to a unit of study, I want to share it" (Jessie). Student interest helps teachers feel successful and "enthusiasm about success leads to discussion" (Irene). Student interest "in technology and the usage of the computer" (Michael) seemed to affect teacher learning and sharing in two ways. First, student interest excited the teachers and motivated them to learn. "We find it [the EELC technology] is a way to motivate kids [and] to motivate us because the kids are so interested in it, so we want to learn more and do more" (Henry). Second, student interest motivated sharing because when students are interested in something, "other teachers are more receptive to it" (Karen). For example, Carl was able to share knowledge when a non-project teacher approached him for help in incorporating technology into instruction because "the kids said that you do this."

Teacher interest and receptivity were clearly connected to practicality at the classroom level. "If I can't use it in the classroom, I have difficulty finding the time for it" (Betty). Irene remarked that many initiatives in her school are introduced in "workshops and they try and grind this stuff into you, when they have a change of program or whatever like that. But even with that....you will never get enough training unless you're really interested. And a lot of these things we aren't interested in."

Even when interested, teachers appear to insist on understanding specifically how an innovation will benefit themselves and students before they invest time to learn and share.

> When this [EELC] project first got started, I was interested, but then I really hadn't realized the significant importance of it....It had not been tried nor tested, so I was a little hesitant. So after getting in the classroom and testing it, then it really became easier and much easier for me to implement with my students. (Michael)

BEST COPY AVAILABLE

Henry explained that project teachers at his school were willing to invest time to learn and share information about this project rather than other school improvement efforts because

> with [technology], we see what it can do...There's buy-in....So I think our sharing is at a higher level than something like if you go to a staff meeting and say, "Okay, this time we're going to stress cooperative learning." So everyone's like, "Oh, gee, what's this? How's it going to affect my classroom? How's it going to affect how I am as a teacher? Is it worthwhile or is it just another hoop the [district] wants us to do?" There's initial cynicism....A lot of times you don't see a connection of how it's going to help you. (Henry)

Besides the benefit of student interest, the teachers mentioned other benefits dependent on their personal beliefs or values. For example, Henry, who taught in an inclusion classroom, said he had been motivated to share with others because he has "seen the technology meet the needs of the diverse learners in [his] class." Nancy worried that the minorities in her classroom would become "superfluous people" because "it's the minorities and women that will be left behind if they don't have the technology." In her view, "in the 21st century, it's not going to be *what* you know, it's 'Can you find the answer? Do you know where to go to get the answer?' "

Two highly experienced teachers sought different benefits. Jessie indicated that the technology "gives students and myself opportunities to learn and grow." Betty elaborated,

> The real reason why I like it is because it's a different way of looking at the same old thing, and the older you get, the longer you teach, that's what you're looking for. You already know what to teach, how it works, why it does, whatever. But you're looking for another way to improve your lesson, to excite your students, to even excite yourself because if you don't do that, if you don't keep your class—and I don't mean entertained—but exciting, then you're not exciting. And when your students see you're not excited about what you're doing, then they don't get excited. But when you come in and they say, "Boy! She really likes what she's doing," well then they like learning what you're doing. Even if they don't like it, they'll learn it because...they see in you that you really enjoy what you're doing.

Once teachers perceived benefits from the innovation, learning and sharing seemed easier. "The belief that my students and I are benefiting from the project has made it easy for me to share new skills, knowledge, and insights in school and every place I go" (Irene).

Teachers' individual level of competence. Teachers in this study differed widely in their level of comfort with technology but seemed to share Jessie's maxim: "When I am well-versed in a subject, I feel confident and comfortable in sharing what I know." They were all beyond the level of "computer scared [colleagues who] don't want to deal with the computer" (Michael). As noted earlier, Irene said she did not share because she had not had time to learn much. However, Jessie suggested that teachers may see their learning as so routine, or dissemination as so non-routine, that they assume they have nothing to disseminate:

> When you're going to do anything, you really have to look at yourself and that's hard to do....So if you're telling the teacher to look at herself or look at himself and share something, [she is asking herself,] "Do I have anything to share?"....So that's one thing people need to take a look at before they think about sharing. You have a lot of qualities there, but you may not know it. You may just not know it.

Some teachers were frequently asked for advice and help because of their perceived competence. For instance, Nancy said that her colleagues "must think I'm a walking encyclopedia" and Michael thought others approached him for help because of his "exposure to corporate business and...computers" prior to becoming a teacher. However, the help or advice seemed to remain at a basic, technical level such as web sites or troubleshooting. Beyond the school level, Michael was motivated by an open opportunity for project participants to present at a summer institute. "The presentation at [the summer institute]...really got me going...I have spent a lot of hours, in the wee hours of the morning, coordinating information, getting it together so that it would correlate when I did the presentation...I want to do the presentation."

Within this study, Ellen appeared to be the strongest sharer of what she had learned. She described her transition as a "gradual process" that began with "starting to feel comfortable with what I was doing, you know, and the more I was able to do it, the more comfortable I felt doing it. And then, I don't know, it's like a search that just gets inside of you and you're just eager to share. Because if I'm eager to learn, you know, then I'm eager to share, because I find that the more I give, the more I get back from other teachers." Although Ellen started her own web page for teachers, served as teacher/technology advisor to a local television station, and had a wide collegial network, she said that she was not always such a strong sharer.

> At one time, . . . I would keep things to myself. I wasn't a person that would, you know, share a lot. And it seems that through the EELC project, I've been able to share more. I guess it's given me an opportunity to have a closer relationship or connection with other teachers, especially teachers that I'm not used to being with all the time, because it brings me in contact with teachers that are not directly here in the building....I've been able to verbalize things to them and after doing that, now I'm able to do more as far as verbalizing the type of things I do and being able to share that information more openly....I first had to overcome my fears and take the plunge....It took time, patience and determination. Soon I was able to build up my confidence, and although I lacked the expertise that others may have had, I made use of the tools I had and gradually began to grow.

Discussion and Conclusions

The data indicate three areas that have major implications for organizational learning in schools, as well as for administrators and professional development leaders. This section elaborates the power of the "practicality ethic" and impact of longstanding school norms on teachers' decisions to learn and disseminate their learning to colleagues, the influence of motivating and restraining factors on organizational learning in schools, and a table of

considerations for administrators in order to foster dissemination in their schools (Table 3).

School norms and the "practicality ethic." Norms of egalitarianism and reciprocity played a major role in the professional lives of the teachers in this study. So strong were these norms that some teachers had developed covert techniques for disseminating their learning to colleagues. The teachers were also powerfully motivated by the practicality ethic. For example, their decisions to invest time and effort in the EELC project appeared to include a cost-benefit analysis where student interest and/or benefit acted as a barometer for deciding how much time to spend learning the new technology and incorporating it into their existing practices. Their psychic rewards included student excitement, teacher excitement, opportunities to learn, opportunities to interact with and help colleagues, and evidence that innovations "work" for students.

Researchers have known for years that student learning contributes to teachers' sense of usefulness and success and provides a "source of emotional arousal and satisfaction" (Jackson, 1968/1990, p. 135). It is likely and appropriate that student interest and "what works" will always be important to teachers. However, teachers might not need to rely almost exclusively on student reactions if they received collegial feedback to improve teaching and learning. Moreover, the establishment of traditions to honor teachers' knowledge contributions to the profession could provide additional inspiration and rewards for teachers beyond student interest.

Almost 30 years ago, Doyle and Ponder (1977) argued that "the practicality ethic is a key link in the knowledge utilization chain in schools" (p. 1). It appears that individual learning, the initial step in the process of organizational learning, may not even materialize if leaders fail to convince teachers that an innovation will interest or benefit students and/or teachers. Thus, if volunteer teachers can be found to pilot and successfully implement an innovation, as in this study, they may be able to convince colleagues to learn something new more effectively than formal leaders.

Dissemination follows individual learning as a second step in the organizational learning process and requires teacher dialogue and collaboration. The teachers in this study exhibited the same tendencies described in the literature. Sometimes they instigated sharing, taking care to observe the reciprocity norm and to be non-judgmental. In two schools, the principals encouraged teachers to share and in one school, students prompted dissemination by telling a teacher that another colleague was trying the technology. The students were not only expressing interest, but as Lortie (1975) noted, they were forcing comparisons by inferring that "Miss So-and-so is doing such-and-such. Why aren't we? or We know this and they don't" (p. 140).

When the teachers chose to interact and share their learning, they shared more often with friends than with acquaintances (Lima, 1998), with colleagues who had similar experiences (Huberman, 1983), with colleagues at the same grade level or in close physical proximity (Newberry, 1977), with team members (Cohen, as cited in Little, 1987), and with colleagues who shared common interests or circumstances (Little, 1992). These are colleagues who are considered more trustworthy (Huberman, 1983; Lortie, 1975). They are also colleagues the teachers know or like. Little (1987) argued that trust among friends acts as a precondition to wanting to work together whereas trust among teachers, if it

develops, is a consequence of discussing practice. Given that dissemination of knowledge is not an established expectation in schools, logic suggests that teachers need more opportunities and sustained opportunities to discuss teaching and learning in order to know and appreciate the views and strengths of their colleagues.

Exploring what works and why it works, hearing colleagues' philosophies, and discussing how to improve teaching and learning in a supportive, non-judgmental way is not yet a norm in many schools. Merely having another adult in the classroom can evoke feelings of criticism and judgment (Jackson, 1968/1990). This puts into jeopardy Little's (1982) critical practice of collegial observation followed by discussion and useful feedback. Nevertheless, teachers in this study considered observation a highly desirable practice to help them learn (also see Rait, 1995). In another study, teachers initially opposed observations in colleagues' classrooms because of the association with the evaluation of teacher performance. However, they came to enjoy learning from peers and discovering others' perceptions or validations of their practices. One referred to observation as "real sharing" (Miller, 1988, p. 176).

Miller's study suggests that more than time factors may restrain collegial observations. Her link between performance evaluations and collegial observations may help explain teachers' feelings of criticism, judgment, and defensiveness noted in the literature and by teachers in this study. For decades, the only adult who observed teachers was a superior conducting traditional performance evaluations. Observation for evaluation purposes respects neither the norm of egalitarianism nor the norm of reciprocity. Additionally, the absence of feedback to improve teaching and learning ignores the importance teachers attach to benefits to the teacher or students. A step toward dissemination in schools may require teachers who have engaged in peer observation to persuade colleagues by explaining the reciprocal relationship and benefits to teachers and students.

Motivating and restraining factors. Not only were the motivating and restraining factors more numerous than usually portrayed in the literature, they were so dynamic that when weighed against other factors, they could block, restrain, or support dissemination (also see Little, 1987). The motivating factors in this study were generally internal and, for the most part, related to teachers' professional judgments, attitudes, and relationships. Conversely, the restraining factors were generally external and related mostly to the structure of the school day and year, especially the lack of time. We suggest that, in the short term, it may be easier to encourage dissemination by working to reduce restraining factors rather than working to increase motivating factors. However, so many factors involved individuals' attitudes, assumptions, and relationships that we believe teachers' norms, values, and beliefs must eventually be addressed if sustained dissemination is to occur.

The most important influence on learning and sharing in this study was time. Teachers constantly felt the pressure of time and noted that most exchanges during the day occurred "on the go," in part because of the strong norm of not interrupting colleagues and because teachers in this study did not know who had common planning time. Thus, their learning and sharing mostly took place on their own time; namely, before or after school, on weekends, and

BEST COPY AVAILABLE

during vacation times. Lack of time for in-depth discussions is surely one explanation for help and advice remaining at a fairly basic level in this study. Another explanation may be that "moment-by-moment exchanges" are used when teachers are "confronted with powerful occupational norms that suppress more instrumental forms of help-seeking" such as norms of non-interference and the perception that help-seeking represents failure (Little, 1990, p. 514). Nevertheless, the lack of time for teacher interactions and dialogue seems to reinforce low expectations for teachers to learn from and share with colleagues.

Learning to share, sharing to learn. The data indicated that teachers in this study required different amounts of time in order to feel comfortable with the technology and to learn how to incorporate it into instruction. They observed that some of their colleagues have very different attitudes toward sharing—from not sharing at all to not realizing they have something to offer, to sharing only when asked, to giving formal presentations, to creating a web page and a wide collegial network. Their comments have implications for professional development because they suggest that teachers, like their students, need both differentiated learning and varying amounts of time to learn. As Jessie noted, some teachers may also need assistance to assess what they have to share with colleagues.

Learning and sharing had a reciprocal relationship in this study; teachers who learned and shared wanted to learn more because they saw benefits to themselves and their students (also see Lichtenstein & McLaughlin's [1992] reciprocal relationship between subject-matter knowledge and collegiality). However, years of experience and/or feelings of competence in the classroom also seemed to influence teachers' willingness to share. Thus, differentiated professional development might begin with observing and listening for some teachers. Other teachers could engage in co-collegial observation and feedback and be encouraged to try formal or informal presentations or demonstrations. Jessie suggested that "if you had a lot of confident people—confident of what they're doing and what they have—they could video tape [their lesson] and just send it to other schools" as a demonstration. Ellen's comments about "taking the plunge" and her description of the long process she undertook to be able to talk to colleagues about teaching and learning suggest that professional development may also require substantial amounts of time for reflective analysis of personal beliefs and attitudes, and then practice to articulate them.

This was a small study involving teachers in only three schools. Although the school is frequently considered the unit of change, the success or failure of initiatives in schools depends on individual teachers—their interest in the innovation, their perception of benefits to students, their willingness to learn, and their opportunities to share their learning. As more is understood about the conditions that influence the dissemination of new knowledge, skills, and insights among teachers and schools, educators will be better able to effect organizational change through investment in and differentiation of teachers' individual and collaborative learning.

Several teachers in the study suggested ways to increase dissemination in schools (Table 3). The most frequent suggestion was for principals to allot part of each staff meeting for open forums, demonstrations, or small-group planning or sharing sessions. Other suggestions for principals included arranging mini-workshops by staff members, encouraging teachers to make presentations within

and beyond the school, identifying a team of resource people to whom colleagues could go for help or advice, designating teachers willing to be observed at any time (with time for follow-up discussion or visits as requested), and identifying teachers with new ideas or things to share. As teachers learn to learn from one another and interact around substantive issues of teaching and learning and their own professional growth, their joint insights may shift the emphasis from individual classroom innovations to contributions to the teaching profession, resulting in organizational learning and change for the benefit of students.

References

Argyris, C., & Schon, D.A. (1978). *Organizational learning*. Reading, MA: Addison-Wesley.

Bacharach, S.B. (1986). *The learning workplace: The conditions and resources of teaching*. Washington, DC: National Education Association.

Collinson, V., & Cook, T.F. (2001). "I don't have enough time": Teachers' interpretations of time as a key to learning and school change. *Journal of Educational Administration, 39*(2&3), 266-281.

Daft, R., & Weick, K. (1984). Toward a model of organizations as interpretation systems. *Academy of Management Review, 9*(2), 284-295.

Donahoe, T. (1993). Finding the way: Structure, time, and culture in school improvement. *Phi Delta Kappan, 75*(4), 298-305.

Doyle, W., & Ponder, G.A. (1977-78). The practicality ethic in teacher decision-making. *Interchange, 8*(3), 1-12.

Feiman-Nemser, S., & Floden, R.E. (1986). The cultures of teaching. In M. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 505-526). New York: Macmillan.

Fiol, C.M., & Lyles, M.A. (1985). Organizational learning. *Academy of Management Review, 10*(4), 803-813.

Fullan, M. (2001). *The new meaning of educational change* (3rd ed.). New York: Teachers College Press.

Fullan, M., & Miles, M.B. (1992). Getting reform right: What works and what doesn't. *Phi Delta Kappan, 73*(10), 745-752.

Goodlad, J.I. (1984). *A place called school: Prospects for the future*. New York: McGraw-Hill.

Grimmett, P., & Crehan, E.P. (1992). The nature of collegiality in teacher development: The case of clinical supervision. In M. Fullan & A. Hargreaves (Eds.), *Teacher development and educational change* (pp. 56-85). London: Falmer.

Hargreaves, A. (1994). *Changing teachers, changing times: Teachers' work and culture in the postmodern age*. New York: Teachers College Press.

Hargreaves, A., & Dawe, R. (1990). Paths of professional development: Contrived collegiality, collaborative culture, and the case of peer coaching. *Teaching & Teacher Education, 6*(3), 227-241.

Huberman, M. (1983). Recipes for busy kitchens: A situational analysis of routine knowledge use in schools. *Knowledge, 4*(4), 478-510.

Huberman, M. (1995). Professional careers and professional development: Some intersections. In T.R. Guskey & M. Huberman (Eds.), *Professional development in education: New paradigms and practices* (pp. 193-224). New York: Teachers College Press.

Jackson, P.W. (1990). *Life in classrooms*. New York: Teachers College Press. (Original work published 1968)

Lewin, K. (1951). *Field theory in social science: Selected theoretical papers*. Edited by D. Cartwright. New York: Harper and Row.

Lichtenstein, G., McLaughlin, M.W., & Knudsen, J. (1992). Teacher empowerment and professional knowledge. In A. Lieberman (Ed.), *The changing contexts of teaching: Ninety-first yearbook of the National Society for the Study of Education* (pp. 37-78). Chicago: University of Chicago Press.

Lieberman, A. (1994). Series editor's introduction. In A. Hargreaves, *Changing teachers, changing times: Teachers' work and culture in the postmodern age* (pp. ix-xi). New York: Teachers College Press.

Lieberman, A., & Rosenholtz, S.J. (1987). The road to school improvement: Barriers and bridges. In J.I. Goodlad (Ed.), *The ecology of school renewal: Theeighty-sixth yearbook of the National Society for the Study of Education* (pp. 79-98). Chicago: The University of Chicago Press.

Lima, J.A. (1998, April). *Improving the study of teacher collegiality: Methodological Issues*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA. (ERIC Document Reproduction Service No. ED 419 779)

Little, J.W. (1982). Norms of collegiality and experimentation: Workplace conditions of school success. *American Educational Research Journal, 19*(3), 325-340.

Little, J.W. (1987). Teachers as colleagues. In V. Richardson-Koehler (Ed.), *Educators' handbook: A research perspective* (pp. 491-518). New York: Longman.

Little, J.W. (1990). The persistence of privacy: Autonomy and initiative in teachers' professional relations. *Teachers College Record, 91*(4), 509-536.

Little, J.W. (1992). Opening the black box of professional community. In A. Lieberman (Ed.), *The changing contexts of teaching: Ninety-first yearbook of the National Society for the Study of Education* (pp. 157-178). Chicago: University of Chicago Press.

Little, J.W., & McLaughlin, M.W. (Eds.). (1993). *Teachers' work: Individuals, colleagues, and contexts.* New York: Teachers College Press.

Lortie, D.C. (1975). *Schoolteacher: A sociological study.* Chicago: University of Chicago Press.

Louis, K.S. (1994). Beyond managed change: Rethinking how schools change. *School Effectiveness and School Improvement, 5*(1), 2-24.

McLaughlin, M.W. (1993). What matters most in teachers' workplace context? In J.W.Little & M.W. McLaughlin (Eds.), *Teachers' work: Individuals, colleagues, and contexts* (pp. 79-103). New York: Teachers College Press.

Miller, L. (1988). Unlikely beginnings: The district office as a starting point for developing a professional culture for teaching. In A. Lieberman (Ed.), *Building a professional culture in schools* (pp. 167-184). New York: Teachers College Press.

Mussen, Paul, & Eisenberg-Berg, Nancy. (1977). *Roots of caring, sharing, and helping: The development of prosocial behavior in children.* San Francisco: W.H. Freeman.

Newberry, J.M. (1977, April). *The first year of experience: Influences on beginning teachers.* Paper presented at the annual meeting of the American Educational Research Association, New York. (ERIC Document Reproduction Service No. ED 137 299)

Rait, E. (1995). Schools as learning organizations. In S.B. Bacharach & B. Mundell (Eds.), *Images of schools: Structures and roles in organizational behavior* (pp. 71-107). Thousand Oaks, CA: Corwin Press.

Rosenholtz, S.J. (1989). Teachers' workplace: The social organization of schools. White Plains, NY: Longman.

Rosenholtz, S.J., & Smylie, M.A. (1984). Teacher compensation and career ladders. *The Elementary School Journal, 85*(2), 149-166.

Sarason, S.B. (1982). *The culture of the school and the problem of change* (2nd ed.). Boston: Allyn & Bacon.

Sarason, S.B. (1990). *The predictable failure of educational reform: Can we change course before it's too late?* San Francisco: Jossey-Bass.

Shaw, R., & Perkins,D. (1992). Teaching organizations to learn: The power of productive failures. In D. Nadler, M. Gerstein, & R. Shaw (Eds.), *Organizational architecture* (pp. 175-192). San Francisco: Jossey-Bass.

Smiley, M.A. (1989). Teachers' views of the effectiveness of sources of learning to teach. *The Elementary School Journal, 89*(5), 543-558.

Smiley, M.A., & Denny, J. (1990). Teacher leadership: Tensions and ambiguities in organizational perspective. *Educational Administration Quarterly, 26*(3), 235-259.

Wasley, P. (1991). *Teachers who lead: The rhetoric of reform and the realities of practice.* New York: Teachers College Press.

Table 1

Motivating Factors Influencing Dissemination

Factor Description	No. of Teacher Cites (n=10)
1. Relationships with Colleagues	
• being on the same team	8
• teaching the same subject	7
• being friends	5
• having mutual trust and confidence	5
• teaching interdisciplinary units with others	5
• having a common interest in technology	4
• having common teaching goals	3
• being on the same team for more than a year	2
• being a team leader	2
• inclusion (teaching together in the same classroom)	2
2. Reactions of Other Teachers	
• interest shown by colleagues	8
• having a resource others want to use	8
• colleagues asking for help or advice	7
• visibility of equipment	5
• colleague's responsiveness to use the technology	5
• colleague's willingness to reciprocate	4
• colleagues' openness to learning	2

3. Personal Attitudes/Dispositions
   - belief that when you share, you learn 8
   - desire to learn 6
   - belief that sharing is a way to improve teaching 6
   - desire to do one's best 5
   - belief in helping others 4
   - belief in reciprocity (help those who help you) 2
   - empathy for beginning teachers 1

4. Interest and Practicality at Classroom Level
   - teacher's interest in sharing 9
   - believing that students and/or teacher benefit 9
   - interest shown by students 7
   - usefulness to teaching 6

5. Level of Competence
   - having specific information to share 9
   - comfort level vis-à-vis technology 5
   - feeling confident about knowledge/skill 5

6. Technical Need and Assistance
   - access to expertise in building 9
   - need for assistance 8

7. Principal's Encouragement
   - principal's request to share information 5
   - principal telling teachers who is doing what 5
   - principal providing formal opportunities for sharing 4

8. Time to Share
   - having designated time to share 5
   - having common planning time 4
   - having personal planning time 2
   - saving time by using technology for lesson preparation 1

9. Meetings Outside of School
   - participation in scheduled project meetings 7
   - attending district workshops 4

10. Physical Location in School
   - having a classroom location that teachers frequently pass 5

Restraining Factors Influencing Dissemination

Factor Description	No. of Teacher Cites (n=10)
1. Lack of Time	
• not enough discretionary time to share	8
• lack of designated time to share	8
• not enough discretionary time to learn	7
• not seeing colleagues because of different schedules	7
• feeling overwhelmed with work	6
• worrying about interrupting colleagues	4
• pressure from state takeover of schools	3
• lack of uninterrupted time	2
• not knowing other teachers' schedules	2
• EELC not a major school priority	2
• EELC not a major personal priority	2
• not enough money for substitute teachers	1
2. Other Teachers' Attitudes	
• colleagues want (but don't have) their own equipment	4
• teachers don't offer advice unless asked	3
• attitudes inhibiting change (e.g., habits)	3
• teachers who are basically territorial	2
• teachers who are defensive about the way they teach	2
• teachers who may take credit for others' ideas	1
• introverted teachers who don't approach others	1
• teachers who are intimidated by computers	1
3. Inter-group Boundaries	
• being in different parts of the building	6
• having different teaching styles	2
• teaching different subjects	2
• perceiving disinterest in colleagues	2
• teaching different grades	1
4. Not Knowing Others Well	
• being on different teams	5
• limiting sharing to familiar colleagues	3
5. Lack of Knowledge	
• teachers who feel they don't have much to share	4
• teachers who feel uncomfortable with the technology	4
6. Problems with the Equipment	
• fear of technical problems interrupting presentation	4

6. Problems with the Equipment
    - fear of technical problems interrupting presentation 4
    - frustrating colleagues with equipment problems 2
    - limited number of rooms with Web access and equipment 2

7. Lack of Professional Learning Community
    - Sharing is not part of my job 3
    - Lack of colleagues at same level of competence 2
    - Lack of on-going dialogue among project teachers 1

Table 3

Considerations for Administrators

Consider:

- convincing teachers to commit to an innovation by showing them how it benefits students and / or teachers, interests students, or "works" in a classroom;

- examining administrator expectations for teachers to learn from and share with colleagues;

- providing common planning time for teachers based on friendships, same grade level, same subject area, common interests, or close classroom proximity;

- fostering sharing by allotting part of staff meetings for open forums, demonstrations, small-group planning and sharing, or mini-workshops;

- encouraging teachers to make presentations within and beyond the school;

- identifying a team of resource people;

- identifying teachers willing to be observed;

- assisting teachers in organizing peer observations with time for follow-up discussions or visits;

- helping teachers assess what they have to offer to their peers;

- identifying and recognizing teachers with new ideas or something to share.

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

Reproduction Release

(Specific Document)

I. DOCUMENT IDENTIFICATION:

Title: Learning to Share, Sharing to Learn: Fostering Organizational Learning Through Teachers' Dissemination of Knowledge	
Author(s): Vivienne Collinson & Tanya Fedoruk Cook	
Corporate Source:	Publication Date:

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, Resources in Education (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following three options and sign in the indicated space following.

The sample sticker shown below will be affixed to all Level 1 documents	The sample sticker shown below will be affixed to all Level 2A documents	The sample sticker shown below will be affixed to all Level 2B documents
PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY SAMPLE TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)	PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY SAMPLE TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)	PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY SAMPLE TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
Level 1	**Level 2A**	**Level 2B**
↑ ☑	↑ ☐	↑ ☐
Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archival media (e.g. electronic) *and* paper copy.	Check here for Level 2A release, permitting reproduction and dissemination in microfiche and in electronic media for ERIC archival collection subscribers only	Check here for Level 2B release, permitting reproduction and dissemination in microfiche only

Documents will be processed as indicated provided reproduction quality permits.
If permission to reproduce is granted, but no box is checked, documents will be processed at Level 1.

I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche, or electronic media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

Signature: Vivienne Collinson	Printed Name/Position/Title: Vivienne Collinson	
Organization/Address: Michigan State University 736 Bedford Grosse Pointe Park, MI 48230-1803	Telephone: 313-331-1845	Fax: 313-824-2949
	E-mail Address:	Date: 4.23.03

III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, or, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

Publisher/Distributor:
Address:
Price:

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant this reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name:
Address:

V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:	
ERIC Clearinghouse on Assessment and Evaluation **1129 Shriver Laboratory (Bldg 075)** **College Park, Maryland 20742**	**Telephone: 301-405-7449** **Toll Free: 800-464-3742** **Fax: 301-405-8134** **ericae#064;ericae.net** **http://ericae.net**

EFF-088 (Rev. 9/97)